

Ref: CS/C1621

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1<sup>st</sup> April 2021

## Re: Land West of Hadrian Drive, Westhampnett– Soakaway Testing – Infiltration Test Result Summary

Dear Rodd

The following investigation was carried out at the above location.

### 1. Site Works

The purpose of the investigation was to supply soakaway test data in general accordance with BRE document 365 (Soakaway Design) at one location which would be the approximate intended location for a possible infiltration device to serve a new single storey extension to an existing dwelling.

The appended drawing illustrates the position of the test pit. The BRE365 pit was excavated to a depth of 1.3m in line with the approximate depth of the proposed soakaway.

An additional pit was excavated to a depth of 1.6m deep, covered and monitored over 48 hours. The pit remained dry throughout.

The testing commenced at 09:00 on 12<sup>th</sup> March 2021 with three tests being undertaken in accordance with BRE 365.

### 2. BRE 365 Soakaway Test Findings

Testing of the sub soils which was noted as clay with gravels and flint produced a BRE 365 design infiltration rate of **1.04x10<sup>-5</sup>m/s** at a depth of 1.3m. This rate was the slowest taken from all three tests. This is considered a moderate rate and suitable for most infiltration devices.

### 3. BRE 365 Soakaway Test Results

| Test Pit No | Infiltration Rate<br>(1-3 Tests) |                           |                                | Depth of<br>Test | Soil Type                        |
|-------------|----------------------------------|---------------------------|--------------------------------|------------------|----------------------------------|
| SAT1        | 1.13x10 <sup>-5</sup> m/s        | 1.10x10 <sup>-5</sup> m/s | <b>1.04x10<sup>-5</sup>m/s</b> | 1.3m             | Clays with gravels and<br>flints |

Richard Cobden House, Lion Street, Chichester, West Sussex, PO19 1LW

## Appendix A – Soakaway Test Location Plan



## Appendix B – Site Photographs



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Consulting Civil Engineers

## **Appendix C – Soakaway Test Results**

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Job: C1644 Grasmere, Nylon Road - Test 1

## Infiltration Calculator

$$f = \frac{V_{p75-25}}{a_{p50} \times t_{p75-25}}$$

$V_{p75-25}$  = Effective storage volume between 75% and 25% effective depth

$a_{p50}$  = Internal surface area of the trial pit up to 50% effective depth and including the base area

$t_{p75-25}$  = The time for the water level to fall from 75% to 25% effective depth

$f$  = Infiltration rate

|                  |   |                |
|------------------|---|----------------|
| Trial pit width  | = | <div>0.5</div> |
| Trial pit depth  | = | <div>1.6</div> |
| Trial pit length | = | <div>1.3</div> |

$a_{p50}$  = 

3.205

 m/squared

$t_{p75-25}$  = 

14400

 seconds

$V_{p75-25}$  = 

0.52

 m/cubed

**F** = 

1.13E-05

Job: C1644 Grasmere, Nyton Road - Test 2

## Infiltration Calculator

$$f = \frac{V_{p75-25}}{a_{p50} \times t_{p75-25}}$$

$V_{p75-25}$  = Effective storage volume between 75% and 25% effective depth

$a_{p50}$  = Internal surface area of the trial pit up to 50% effective depth and including the base area

$t_{p75-25}$  = The time for the water level to fall from 75% to 25% effective depth

$f$  = Infiltration rate

|                  |   |     |
|------------------|---|-----|
| Trial pit width  | = | 0.5 |
| Trial pit depth  | = | 1.6 |
| Trial pit length | = | 1.3 |

$a_{p50}$  = 3.205 m/squared

$t_{p75-25}$  = 14700 seconds

$V_{p75-25}$  = 0.52 m/cubed

**F** = 1.1E-05



Job: C1644 Grasmere, Nyton Road - Test 3

## Infiltration Calculator

$$f = \frac{V_{p75-25}}{a_{p50} \times t_{p75-25}}$$

$V_{p75-25}$  = Effective storage volume between 75% and 25% effective depth

$a_{p50}$  = Internal surface area of the trial pit up to 50% effective depth and including the base area

$t_{p75-25}$  = The time for the water level to fall from 75% to 25% effective depth

$f$  = Infiltration rate

|                  |   |                |
|------------------|---|----------------|
| Trial pit width  | = | <div>0.5</div> |
| Trial pit depth  | = | <div>1.6</div> |
| Trial pit length | = | <div>1.3</div> |

$a_{p50}$  = 

3.205

 m/squared

$t_{p75-25}$  = 

15600

 seconds

$V_{p75-25}$  = 

0.52

 m/cubed

**F** = 

1.04E-05